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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,223	12/15/2003	Venkat Selvamanickam	1014-SP165-US	3138
34456	7590	11/03/2006	EXAMINER	
LARSON NEWMAN ABEL POLANSKY & WHITE, LLP 5914 WEST COURTYARD DRIVE SUITE 200 AUSTIN, TX 78730			TALBOT, BRIAN K	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/736,223

Applicant(s)

SELVAMANICKAM, VENKAT

Examiner

Brian K. Talbot

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The amendment filed 8/28/06 has been considered and entered. Claim 6 has been canceled. Claim 16 has been added. Claims 1-5 and 7-16 remain in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In light of the amendment filed 8/28/06, the 35 USC 112, second paragraph, rejections have been withdrawn, however, the following have been necessitated by the amendment.

***Claim Rejections - 35 USC § 112***

4. In claim 12, step d, the term “tape” appears to have been inadvertently left out between the terms “the” and to”.

In claim 15, the term “film openings” is vague and indefinite. It appears that this may also be a typographical error and should have been recited as “fine”.

In claim 16, the term “fine openings” lacks antecedent basis.

5. In light of the amendment filed 8/28/06, the 35 USC 112, first paragraph, rejection has been withdrawn

***Claim Rejections - 35 USC § 103***

6. Claims 1-5,8-13,15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weismann et al. (6,794,339) in combination with either deBarbadillo, II et al. (4,962,085) or Yoshida (5,206,216) further in combination with Lee et al. (2004/0163597).

Weismann et al. (6,794,339) teaches synthesis of YBCO using sub-atmospheric processing. Weismann et al. (6,794,339) teaches forming crystalline YBCO that includes forming a precursor film and heat treating at a temperature above 500°C in the presence of oxygen, nitrogen and water vapor at sub atmospheric pressures (abstract). Weismann et al. (6,794,339) teaches water vapor pressures of up to 25 Torr as well as a carrier gas such as nitrogen with the addition of oxygen (col. 2, lines 5-15). By products are swept out of the chamber in a more efficient manner (col. 2, lines 50-60). The growth rate ranges from 1-20 angstroms per second (col. 4, lines 20-22). The substrates on which the superconducting films are deposited on include nickel coated with a buffer of cerium oxide (col. 7, lines 10-20). Sub-atmospheric pressure of 1-760 Torr are utilized in the processing chamber (Fig. 4 and col. 8, lines 35-45).

Weismann et al. (6,794,339) fails to teach this process utilized in coating tapes.

DeBarbadillo, II et al. (4,962,085) teaches production of oxidic superconductors by zone oxidation of a precursor alloy. This oxidation post-treatment can be performed on a variety of substrate shapes including tapes, ribbons and wire (abstract, Fig. 1 and col. 1, lines 1-15).

Yoshida (5,206,216) teaches a method of fabricating oxide superconducting wires by laser ablation. The superconducting coating is applied to wires or tape-like substrates and post-treated in an oxygen atmosphere to form the superconductor coating (abstract and Fig. 3).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Weismann et al. (6,794,339) process by utilizing the process to form superconducting materials in tape/ribbon form as evidenced by deBarbadillo, II et al. (4,962,085) or Yoshida (5,206,216) with the expectation of achieving similar success.

Weismann et al. (6,794,339) in combination with either deBarbadillo, II et al. (4,962,085) or Yoshida (5,206,216) fail to teach the use of a showerhead to supply the oxygen/water vapor.

Lee et al. (2004/0163597) teaches the conventionality of supply "forming gases" by a showerhead including oxygen to a substrate to form a superconductive film ([0003]-[0004]).

Therefore it would have been obvious at the time the invention was made to have modified Weismann et al. (6,794,339) in combination with either deBarbadillo, II et al. (4,962,085) or Yoshida (5,206,216) process by incorporating showerhead to supply the oxygen/water vapor as evidenced by Lee et al. (2004/0163597) with the expectation of achieving similar success.

With respect to claim 13 which recites a pumping system to remove by-products, it is noted that Weismann et al. (6,794,339) teaches by products being swept out of the chamber in a more efficient manner (col. 2, lines 50-60) and hence, the addition of a pumping system to perform this function would be within the skill of one practicing in the art.

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Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weismann et al. (6,794,339) in combination with either deBarbadillo, II et al. (4,962,085) or Yoshida (5,206,216) further in combination with Lee et al. (2004/0163597) further in combination with Manabe et al. (6,774,088) or Weinstein (6,083,885).

Weismann et al. (6,794,339) in combination with either deBarbadillo, II et al. (4,962,085) or Yoshida (5,206,216) further in combination with Lee et al. (2004/0163597) fail to teach the processing chamber having a dew point between 40-80°C.

Manabe et al. (6,774,088) teaches a rare earth barium copper compositions and method of producing superconductors. Manabe et al. (6,774,088) teaches dew point temperatures of 80°C when heating the superconducting precursor to form the superconductor. This can be done in reduced pressure (col. 4, lines 40-65 and Examples 2,4).

Weinstein (6,083,885) teaches method of forming textured high temperature superconductors. Weinstein (6,083,885) teaches REBCO superconductors where the precursors are heated in an oxygen atmosphere with a dew point in the range of 20°C-75°C (col. 11, lines 10-45).

Therefore it would have been obvious for one skilled in the art at the tie the invention was made to have modified Weismann et al. (6,794,339) in combination with either deBarbadillo, II et al. (4,962,085) or Yoshida (5,206,216) further in combination with Lee et al. (2004/0163597) process by performing the post-treatment having a dew point as claimed as evidenced by Manabe et al. (6,774,088) or Weinstein (6,083,885) with the expectation of achieving similar success.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weismann et al. (6,794,339) in combination with either deBarbadillo, II et al. (4,962,085) or Yoshida (5,206,216) further in combination with Lee et al. (2004/0163597) further in combination with Ott et al. (5,278,138).

Weismann et al. (6,794,339) in combination with either deBarbadillo, II et al. (4,962,085) or Yoshida (5,206,216) further in combination with Lee et al. (2004/0163597) fail to teach the processing chamber being a cold-walled chamber.

Ott et al. (5,278,138) teaches an aerosol CVD deposition of a metal oxide film. The metal oxide film can be superconductive coating such as YBCO (col. 3, lines 15-35). The reactors for which the process can take place include both cold-wall and hot-wall reactors (col. 5, lines 50-60).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Weismann et al. (6,794,339) in combination with either deBarbadillo, II et al. (4,962,085) or Yoshida (5,206,216) further in combination with Lee et al. (2004/0163597) process chamber to be a cold-wall chamber as evidenced by Ott et al. (5,278,138) with the expectation of achieving similar success.

### ***Response to Amendment***

7. Applicant's arguments filed 8/28/06 have been fully considered but they are not persuasive.

Applicant argued that the showerhead in the instant invention is utilized to supply “conversion gases” while the showerhead of the prior art is utilized to supply “forming gases”.

The Examiner disagrees. The prior art, as well as applicant’s comments, teach the conventionality of utilizing showerheads to provide uniform introduction of gases to a substrate. The advantages associated with utilizing a showerhead is not “material dependent” and therefore, one skilled in the art would expected to achieve to benefits associated with the use of a showerhead, regardless of whether the gases are “forming gases” or “conversion gases”. Furthermore, the Examiner does not concede that there is a difference between “forming” and “conversion” gases. Both gases are utilized to produce/form the end product as well as the fact that both gases are oxygen/water vapor to produce and oxide film.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian K Talbot  
Primary Examiner  
Art Unit 1762

BKT